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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,189	05/31/2000	Seung-Chan Bang	11349-P65582US0	4177

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EXAMINER	
BURD, KEVIN MICHAEL	
ART UNIT	**PAPER NUMBER**
2611	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/584,189	BANG ET AL.	
	Examiner	Art Unit	
	Kevin M. Burd	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *83,88-94,96,97,117,123,124,152,153,155,156,158 and 161-163* is/are allowed.

6)☒ Claim(s) *180-247* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 83,88-94,96,97,117,123,124,152,153,155,156,158,161-163 and 180-247.

1. This office action, in response to the amendment filed 3/30/2006, is a final office action.

Response to Arguments

2. Applicant has added new claims 180-247. Applicant has not provided arguments on the record distinguishing the newly added claims from the previously disclosed prior art other than the statement neither Ovesjo, Dohl, Stewart or a combination thereof teach this application of specified orthogonal variable spreading factor coded to data channels. Rejections of these new claims are stated below.

Information Disclosure Statement

3. The information disclosure statement filed 2/10/2006 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because JP-07038962 does not include a translation and KR 1997-0031399 is incomplete. A copy of the figures of the reference is not present. These references have been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 180, 181, 183-185, 187-190, 192-201, 203-205, 207-210, 212-219, 233, 234 and 237-244 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ovesjo et al (US 6,108,369) in view of Yoshida et al (US 5,734,647).

Regarding claims 180, 181, 200 and 201, Ovesjo discloses a method for spreading data using at least three data channels (abstract). The signals to be spread have a plurality of pairs of in-phase and quadrature phase data. This is shown in figure 1A. The plurality of I signals are input to multipliers 10 and 12 where the quadrature signals are input to multipliers 14 and 16. Data and control information is encoded to data and control channels (column 3, lines 2-16). Code generating means generates spreading codes to the channels. These spreading codes are selected on the basis of data rates (column 5, lines 32-44). The spreading codes correspond to an orthogonal variable spreading code (column 5, lines 16-31). The spreading codes allocated to the data channels are represented in the code tree shown in figure 2. Though Ovesjo discloses transmitting a plurality of pairs of I and Q signals as shown in figure 1A, Ovesjo does not disclose allocating a spreading code to a first and second (I and Q) data channel. Yoshida discloses a transmitter that spread an I and Q channel by the same spreading code (column 8, lines 63 to column 9, lines 12 and figure 4A, elements

6, 8 and 34). It would have been obvious for one of ordinary skill in the art at the time of the invention to use the same spreading code for each I and Q pair as taught by Yoshida in the method of Ovesjo to minimize the number and complexity of spreading codes used. This in turn would allow the data rate to be at a maximum. When three data channels are used, the first, second and third data channels are used.

Regarding claims 183, 184, 203 and 204, Ovesjo discloses a plurality of I and Q data channels in figure 1A.

Regarding claims 185, 189, 190, 205, 209 and 210, Ovesjo discloses spreading more than three data channels in figure 1A.

Regarding claims 187-188, 192-197, 207, 208 and 212-217, Ovesjo discloses a plurality of I and Q data channels in figure 1A.

Regarding claims 198, 199, 218 and 219, Ovesjo discloses generating the spreading codes shown in figure 2.

Regarding claims 233, 237 and 240, Ovesjo discloses an apparatus for spreading data using at least three data channels (abstract). The signals to be spread have a plurality of pairs of in-phase and quadrature phase data. This is shown in figure 1A. The plurality of I signals are input to multipliers 10 and 12 where the quadrature signals are input to multipliers 14 and 16. Data and control information is encoded to data and control channels (column 3, lines 2-16). Code generating means generates spreading codes to the channels. These spreading codes are selected on the basis of data rates (column 5, lines 32-44). The spreading codes correspond to an orthogonal variable spreading code (column 5, lines 16-31). The spreading codes allocated to the

data channels are represented in the code tree shown in figure 2. Though Ovesjo discloses transmitting a plurality of pairs of I and Q signals as shown in figure 1A, Ovesjo does not disclose allocating a spreading code to a first and second (I and Q) data channel. Yoshida discloses a transmitter that spread an I and Q channel by the same spreading code (column 8, lines 63 to column 9, lines 12 and figure 4A, elements 6, 8 and 34). It would have been obvious for one of ordinary skill in the art at the time of the invention to use the same spreading code for each I and Q pair as taught by Yoshida in the apparatus of Ovesjo to minimize the number and complexity of spreading codes used. This in turn would allow the data rate to be at a maximum. When three data channels are used, the first, second and third data channels are used.

Regarding claims 234, 238 and 241-243, Ovesjo discloses a plurality of I and Q data channels in figure 1A.

Regarding claim 239, Ovesjo discloses spreading more than three data channels in figure 1A.

Regarding claim 244, Ovesjo discloses generating the spreading codes shown in figure 2.

5. Claims 182, 186, 191, 202, 206, 211, 220-232, 235, 236 and 245-247, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ovesjo et al (US 6,108,369) in view of Yoshida et al (US 5,734,647) further in view of Stewart et al (US 6,009,091).

Regarding claims 182, 186, 191, 202, 206 and 211, the combination of Ovesjo and Yoshida disclose the method stated above. The combination does not disclose the spreading code allocated to the control channel is represented by a code with a spreading factor of 256 and a code number of zero. Stewart discloses the DPCCH consists of known pilot symbols to support channel and SNR estimations and is typically spread by a factor of 256 (column 1, lines 41-47). It would have been obvious for one of ordinary skill in the art at the time of the invention to utilize the control code of Stewart in the combination of Ovesjo and Yoshida to take advantage of the power and rate control used to control the data transmitted (column 1, lines 41-47).

Regarding claims 220, 221, 223, 224, 229 and 232, Ovesjo discloses an apparatus for spreading data using numerous three data channels (abstract). The signals to be spread have a plurality of pairs of in-phase and quadrature phase data. This is shown in figure 1A. The plurality of I signals are input to multipliers 10 and 12 where the quadrature signals are input to multipliers 14 and 16. Data and control information is encoded to data and control channels (column 3, lines 2-16). Code generating means generates spreading codes to the channels. These spreading codes are selected on the basis of data rates (column 5, lines 32-44). The spreading codes correspond to an orthogonal variable spreading code (column 5, lines 16-31). The spreading codes allocated to the data channels are represented in the code tree shown in figure 2. Though Ovesjo discloses transmitting a plurality of pairs of I and Q signals as shown in figure 1A, Ovesjo does not disclose allocating a spreading code to a first and second (I and Q) data channel. Yoshida discloses a transmitter that spread an I and

Q channel by the same spreading code (column 8, lines 63 to column 9, lines 12 and figure 4A, elements 6, 8 and 34). It would have been obvious for one of ordinary skill in the art at the time of the invention to use the same spreading code for each I and Q pair as taught by Yoshida in the method of Ovesjo to minimize the number and complexity of spreading codes used. This in turn would allow the data rate to be at a maximum. When three data channels are used, the first, second and third data channels are used. The combination of Ovesjo and Yoshida disclose the method stated above. The combination does not disclose the spreading code allocated to the control channel is represented by a code with a spreading factor of 256 and a code number of zero. Stewart discloses the DPCCH consists of known pilot symbols to support channel and SNR estimations and is typically spread by a factor of 256 (column 1, lines 41-47). It would have been obvious for one of ordinary skill in the art at the time of the invention to utilize the control code of Stewart in the combination of Ovesjo and Yoshida to take advantage of the power and rate control used to control the data transmitted (column 1, lines 41-47).

Regarding claims 225-227 and 230, Ovesjo discloses a plurality of I and Q data channels in figure 1A.

Regarding claims 222, 228 and 231, Ovesjo discloses generating the spreading codes shown in figure 2.

Regarding claims 235 and 245, the combination of Ovesjo and Yoshida disclose the apparatus stated above. The combination does not disclose the spreading code allocated to the control channel is represented by a code with a spreading factor of 256 and a code number of zero. Stewart discloses the DPCCH consists of known pilot

symbols to support channel and SNR estimations and is typically spread by a factor of 256 (column 1, lines 41-47). It would have been obvious for one of ordinary skill in the art at the time of the invention to utilize the control code of Stewart in the combination of Ovesjo and Yoshida to take advantage of the power and rate control used to control the data transmitted (column 1, lines 41-47).

Regarding claims 236, 246 and 247, Ovesjo discloses spreading more than three data channels in figure 1A.

Allowable Subject Matter

6. Claims 83, 88-94, 96, 97, 117, 123, 124, 152, 153, 155, 156, 158 and 161-163 are allowed.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stephenson et al (US 5,966,373) discloses a spread spectrum transmitter comprising a method and means for spreading I/Q symbol pairs by identical PN codes (column 7, lines 58-62, column 11, lines 13-15 and figure 5A).

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin M. Burd
6/11/2006

KEVIN BURD
PRIMARY EXAMINER